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Title: Offering financial incentives to increase adherence to antipsychotic medication: The clinician experience

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ABSTRACT

Financial incentives for medication adherence in patients with psychotic disorders are controversial and clinicians have expressed anxiety about possible negative consequences. It is not yet known whether these fears are borne out in reality. We aimed to explore community mental health clinicians' experiences of the consequences of giving patients with psychotic disorders a financial incentive to take their depot medication. We implemented descriptive and thematic analysis of semi-structured interviews with the clinicians of patients assigned to receive incentives within a randomised controlled trial. Fifty nine clinicians were interviewed with regards to the effect of the incentives on 73 of the 78 patients allocated to receive incentives in the trial. Most commonly, clinicians reported benefits for clinical management including improved adherence, contact, patient monitoring, communication and trust (N = 52). Positive effects on symptoms, insight or social functioning were reported for some (N = 33). Less commonly, problems for patient management were reported (N=19) such as monetarisation of the therapeutic relationship, or negative consequences for the patient (N=15) such as increased drug and alcohol use. Where requests for increased money occurred, these were rapidly resolved and did not cause problems for treatment. It appears that in most cases clinicians found that using incentives led to benefits for patient management and for patient health. However, in 33% of cases some adverse effects were reported. The likelihood of benefit versus the smaller risk of adverse effects should be weighed up when deciding whether to offer incentives to individual patients.

KEYWORDS

Schizophrenia; anti-psychotics; medication adherence; incentives

INTRODUCTION

Poor adherence to anti-psychotic medication is a common issue in the treatment of patients with psychotic disorders (Cramer & Rosenheck, 1998; Chang et al, 2013; Dolder et al, 2003; Fenton et al, 1997; Lacro et al, 2002) which can lead to an increased risk of relapse, hospitalisations and suicide attempts (Novick et al, 2010). Amongst others, longer duration of illness (Chang et al, 2013) prevalence of positive symptoms (Brain et al, 2013) medication side effects or lack of insight have shown to be predictors of poorer medication adherence (Brain et al, 2013; Chang et al, 2013). Priebe et al. (2013) conducted a cluster randomised controlled trial (FIAT) investigating whether offering financial incentives to patients with a psychotic disorder, would affect their adherence to anti-psychotic depot medication.

Adherence to treatment significantly increased in the intervention group (who received a modest financial incentive of £15 for every depot received during a twelve month period) compared to the control group. There were no significant differences between clinician rated clinical improvement between the two groups, but a favourable subjective quality of life was identified in the intervention group. The FIAT trial identified that offering modest financial incentives can be effective in increasing adherence to medication in patients with psychotic disorders (Priebe et al, 2013).

However, the use of financial incentives to improve adherence to anti-psychotic medication is considered controversial by many. Whilst some have made the argument that financial incentives can be viewed as a type of reinforcement (Burns, 2007; Claassen, 2007) and far less coercive than involuntary hospital admission (Burns, 2007), others have expressed concerns about the negative implications of offering financial incentives (Claassen, 2007; Claassen et al, 2007; Shaw, 2007; Szmukler, 2009). Focus groups (Priebe et al, 2010) have helped identify the major concerns of clinicians and other stakeholders. The concerns included whether financial incentives would effectively increase adherence, whether patients actually benefit from taking their depot more regularly, whether the money would be used to

buy drugs and alcohol contributing to worsened mental health, whether the incentives would undermine the therapeutic relationship, whether it would perversely incentivise adherent patients to stop taking their medication, whether it would coerce people into accepting medication against their will, and whether it is fair to offer incentives to non-adherent patients but not adherent patients.

The first two questions have been addressed by the randomised controlled trial. In addition, the issue of coercing unwilling patients into taking medication was addressed by including only those who had provided informed consent to take the medication and already willingly taken it for some time, albeit without full adherence. In order to determine whether stakeholders' other concerns regarding negative consequences are borne out in reality, we interviewed the clinicians of patients allocated to receive incentives, with a specific interest in the following research questions:

1. What did clinicians report about how patients spent the money?
2. Did clinicians report patients asking for more money or more frequent depot injections?
3. Did clinicians report other patients in the team asking to receive payment for depot injections – or becoming non-adherent to their medication in order to qualify?
4. How did clinicians experience the effect of financial incentives on their patient's interaction with the team?
5. What direct and indirect effects of financial incentives did clinicians, perceive on patients' health outcomes?

EXPERIMENTAL PROCEDURE

Study design: Exploratory qualitative study. Semi-structured interviews with the clinicians as part of the FIAT randomised controlled trial (Priebe et al, 2013). Thematic analysis was employed by coding clinicians' responses, and subsequently identifying and refining a thematic structure.

Sample participants and data collection: The FIAT randomised controlled trial included 141 patients across 73 UK community mental health and assertive outreach teams with a diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder, who were prescribed long acting antipsychotic (depot) injections but had received 75% or less of the prescribed injections. For each patient assigned to receive incentives during the RCT (n=78), a care co-ordinator, community psychiatric nurse or mental health team manager involved in their clinical care was contacted at the mid-point (month 6) and then at the end-point (month 12) of the intervention period, and asked to complete a short 15 minute semi-structured interview over the phone or in person. The interviews were a mixture of yes/no questions with room for further unstructured explanations of responses. The interviews explored clinicians' experiences of the effects of offering incentives on the patient's interaction with the team and on their health and social outcomes, and whether the use of the incentive had caused any problems. They also asked clinicians how they thought the patients were using the money, whether any patients had asked for more money, whether any patients had asked to receive their depot more often in order to be paid more often, and whether any other patients in the team had asked to be paid.

Data analysis: All interview answers were recorded by written documentation by a researcher. The electronic interview transcripts from both time points (month 6 and month 12) were then imported using the Nvivo software (version 10) for qualitative data analysis.

The data was analysed using a per-patient opposed to per-clinician or per-interview approach. This was to minimise the possibility of falsely inflating the frequency of theme endorsement. To achieve this, the data on each patient across both time points was collapsed to gain an overall picture of clinician experiences with each patient.

The yes/no responses were descriptively analysed whilst the more qualitative unstructured responses were thematically coded within Nvivo (version 10). As the interview questions were formatted with the anticipation of yes/no responses, they were required to be topic specific (i.e. '*did offering financial incentives influence the quality of the therapeutic relationship?*' and '*did offering financial incentives have any other influence on treatment of the patient e.g. attending of the day hospital, contacts with the GP etc.?*'). Therefore, the analysis of the detailed responses was inductively driven, with themes arising directly from the very nature of the question (e.g. 'therapeutic relationship' or 'other management').

During the original stages of coding, the research team worked together to discuss the application of a preliminary coding framework to each interview. Once a coding framework had been provisionally developed, the first and second authors independently coded the interviews. The authors then collaborated further to refine the emergent coding framework, by either collapsing or expanding codes to encompass emergent themes. Once the second stage framework had been agreed upon, the researchers continued to code independently. This was completed until the authors believed the themes to be internally homogenous and externally heterogeneous. Inter-rater reliability was established by researchers working together on the refinement of the coding framework at the two collaborative stages.

The research team: The design and implementation of the FIAT trial was devised by SP and the original FIAT research team. Interviews were conducted by FIAT research assistants throughout the trial. Data from the clinician interviews was collated, coded and analysed by

EHW, KB and TK with regular supervisory oversight from SP. The team included two psychiatrists and two psychologists.

Ethical Approval: Written informed consent for participation in the study was obtained by all patients for whom clinicians were interviewed. The study design was approved by the NRES Ealing and West London Research Ethics Committee (ref: 09/H0710/35)

RESULTS

Fifty-nine clinicians were interviewed with regards to the effect of the incentives on 73 of the 78 patients allocated to receive incentives during the FIAT trial. Twenty clinicians were interviewed about more than one patient – and for 19 patients, a different clinician was interviewed at each timepoint. The number of clinicians interviewed and the number of patients for whom interviews were obtained at each time point are presented in Table 1.[Insert Table 1 about here].

What did clinicians report about how patients spent the money?

The most common ways in which clinicians reported patients spending the money were on food (n = 24 patients), alcohol (n = 21), illicit drugs (n = 17), household goods (n = 11), hobbies (n = 10) and tobacco (n = 10).

Did clinicians report patients asking for more money or more frequent depot injections?

Clinicians reported 6 patients across 5 teams having asked for the incentive to be increased above £15, but clinicians said this was resolved quickly and did not cause problems for the remainder of the trial. Six patients were reported to have asked to receive their depot more frequently; an additional 12 patients were reported to have requested to have their depot days in advance of the due date, or to have turned up for it a few days early. Clinicians stated that

when these requests (sometimes delivered in a ‘joking’ manner) were refused there were no implications for the patient’s treatment.

Did clinicians report other patients in the team asking to receive payment for depot injections – or becoming non-adherent to their medication in order to qualify?

Twenty-two patients not in the trial across 10 teams were reported as asking to be paid for their depot and/or asking why they were not being paid. Two patients were reported to have missed their depot as a consequence, whilst another patient was reported to have threatened not to take his depot. These problems were reported as being short-lived and rapidly resolved.

How did clinicians experience the effect of financial incentives on their patient’s interaction with the team?

The clinicians of 65 patients reported qualitative information on how incentives had positively or negatively influenced the interaction with the team. Clinicians for the remaining 8 patients reported no effect of the incentives on patients’ interaction with the team.

1. Positive effects on clinical management and relationships

1.1 Positive effects on clinical management

For 53 patients, clinicians reported that the financial incentives had led to improvements in their ability to effectively manage their patient’s care. The most obvious benefit, reported in the case of 47 patients, was that their attendance of depot appointments improved:

“The patient has become compliant and turns up for their medication religiously” (Patient 1, Clinician 1).

“It made a lot of difference to this patient - he is wavering and the only thing keeping him on depot is the money” (Patient 2, Clinician 2)

Twelve patients were reported as making extra efforts to ensure they received the depot on time (and hence received the incentive):

“He will call up to speak to the team and check his depot due date when before involvement in the study he would never use a phone.” (Patient 11, Clinician 3)

The clinicians of 32 patients reported that the incentives had had knock-on effects in terms of other aspects of clinical management. These benefits included allowing the clinicians to spend less time chasing the patient (7 patients), increased contact facilitating monitoring of the patient’s health (17 patients), increased engagement with the team (16 patients), and increased attendance of other meetings such as with the psychiatrist, drug and alcohol services, or CPA reviews (10 patients):

“The incentives have made it easier for me to know where he is - I used to have to chase and he wouldn’t answer his phone... The financial incentive ensured the client would be there for his appointment.” (Patient 4, Clinician 5).

“Care coordinators need to have contact to be aware of issues with the client. The financial incentive eased this process as the client was forthcoming for their depot, therefore we were having face to face contact regularly.” (Patient 5, Clinician 6)

“- ..Since the study and during it he has been happily involved with the service, whereas his involvement fluctuated before” (Patient 6, Clinician 7).

“He is a lot more proactive about coming to the centre and engaging with the team than he used to be... he has agreed to see a psychiatrist for the first time in a couple of years”
(Patient 8, Clinician 9).

“He is engaging well with the substance misuse team” (Patient 9, Clinician 10)

1.2 Positive effects on relationships

For 21 patients, clinicians linked the incentive to improvements in their relationships with their patients. These improvements included increased trust and communication:

“Before the start of this trial, the patient was very suspicious of the team and very guarded. This has dramatically changed since being involved in the study. The patient has come to trust the team more” (Patient 10, Clinician 3).

Some clinicians linked the improved relationship to the increased contact which the incentive had generated:

“The involvement in the study has given the team more access to patient. He engages a lot more with the team and the relationship has built up hugely.. (Patient 11, Clinician 3).

Others linked this to the positive effect of depot medication on the patient's presentation:

“He is very pleasant to work with because he is taking his regular depot - I have more positive contact with him. He is friendlier, more appropriate and there is less non-crisis contact than there had been before... ”. (Patient 12, Clinician 11).

“..I think the relationship would have grown anyway as the level of trust increased, however the incentive may have helped with this development as it meant that the client was getting the depot on a regular basis and his symptoms subsided, which allowed our relationship to be given a chance” (Patient 4, Clinician 5).

Some emphasised that the improvement in their relationship made clinical management easier by facilitating constructive communication with the client:

“The patient comes to the CMHT more often - before I couldn't talk to her, but now I get to talk more with her about her plans for the future.” (Patient 14 Clinician 12)

“The linking with other services has increased. For example, the patient now asks for the team to be present when meeting his probation officer and lets the team know more about what is going on with the other services the patient is involved with.” (Patient 10, Clinician 3)

2. Negative effects on clinical management and relationships

The clinicians of 19 patients reported negative effects of the incentives on the patient's interaction with the team.

2.1 Negative effects on clinical management

The clinicians of 5 patients reported negative effects on their ability to manage their patient's care. In two cases this was because they find the time and effort involved in providing the incentive was problematic:

“I felt a bit of extra pressure- I don't expect to be the banker. Sometimes I'd go to administer a depot and forget the money - but because the client expected it, I would have to return with the money, taking more time out of my day” (Patient 16, Clinician 14).

In another three cases, this was because the patients disengaged with treatment, which the clinicians attributed to spending the incentive on drugs and alcohol:

“The patient has been spending the money - presumably - on drugs and has consequently been discharged from the CMHT due to lack of engagement” (Patient 17, clinician 15).

2.2 Negative effects on the therapeutic relationship

The clinicians of 17 patients reported a negative effect of incentives on the therapeutic relationship. The most commonly reported type of negative impact (reported for 10 patients) was a monetarisation of the relationship:

“The patient viewed receiving the depot as his 'pay day' and there is no longer a rapport between myself and the patient.. - (Patient 18, Clinician 16).

“The relationship has become generally more focused on money, not the interaction. I feel he is only interested in the money, not actually in interacting with staff,.. ” (Patient 19, Clinician 17).

In 5 cases, patients were reported to have become aggressive if the money was not delivered promptly:

“The patient would get angry if the money wasn't there and would become slightly threatening if he did not receive it.” (Patient 20, Clinician 18)

For one patient management of this aggression required increased staff manpower:

“The study used up more man-power as a second person had to come to give the financial incentive to the patient because of the aggression experienced by the CPN” (Patient 21, Clinician 19).

What direct and indirect effects of financial incentives did clinicians perceive on patients' health outcomes?

The clinicians of 42 patients reported qualitative information on how they perceived the effects of financial incentives on patients' outcomes. This incorporated health and social outcomes such as symptoms, wellbeing, social functioning, insight and relationships with friends and family. The clinicians of the remaining 31 patients did not report any effect.

1. Positive Effect on Patient Outcomes

A positive effect was reported for 33 patients. This theme was further broken down into 3 sub-themes: Improved mental well-being; Improved social functioning; Insight.

1.1 Improved mental well-being

The clinicians of 15 patients reported that the incentives had had a positive effect on their patient's well-being, including an improvement in mental health and reduction in symptoms (11 patients) and a reduction in drug and alcohol use (3 patients):

"His mental health and presentation is better and he is less psychotic" (Patient 22, Clinician 20)

"He has been stepped down from CPA because he is doing well" (Patient 23, Clinician 21)

"He has had a major illness due to alcohol but has now stopped drinking." (Patient 24, Clinician 22)

The clinicians of 5 patients specifically linked the improvement in mental health to increased depot adherence:

"He's a long-term drug user but his depot reduces the psychotic effects of these drugs, and now he is coming for his depot on time, in the last 6 months we are noticing an improvement in his mental state" (Patient 9, Clinician 10).

"..The patient now attends regularly for their depot and has had no relapses which has helped the team" (Patient 25, Clinician 23)

1.2 Improved insight

Relatedly, the clinicians of 12 patients reported that their patients had improved insight into their illness and into the beneficial effects of medication on their mental health:

“The patient is gaining more of an insight into his illness and is recognising his symptoms, his dialogue has improved and he is more involved with his treatment plan. He says he is 'hoping to move forward'.” (Patient 10, Clinician 3)

“The client has acknowledged his year of stability as a result of taking his medication regularly - he sees the benefit of the medication and being well is the incentive to take it. The financial incentive has helped with this but is not the main driver” (Patient 6, Clinician 7).

1.3 Improved social functioning

The clinicians of 16 patients reported a positive effect of the incentives on the patient’s social functioning. The most common improvements were reported as the regular medication and contact having a stabilising effect on the patient’s lifestyle and improved family relationships:

“He leads a very chaotic life and the money is providing him with more of a routine. He is including the money in his budget now.” (Patient 28, Clinician 27).

“He uses less illicit substances as he was treated better and the team had less contact from the police. He now has a less chaotic lifestyle... there are less problems with his family and the police”. (Patient 29, Clinician 28).

“Being on the study has helped because the regular contact and medication has given him stability and a sense of satisfaction with his lifestyle, and his relationships are more stable” (Patient 6, Clinician 7)

“The patient has a new relationship with a partner and getting more regular medication has helped a lot. I believe this is due to the FIAT money.” (Patient 25, Clinician 29).

Other reported improvements included a more stable housing situation, finding a job, improved budgeting ability and improved self-care:

“The money motivated him to attend his depot injection... His self-care and hygiene has improved massively.... He continues to engage well with the home office about immigration and helps out at the hostel/accommodation in cooking.” (Patient 30, Clinician 31).

“He is now working as a waiter and talking about moving out of parents' home and getting a place for himself.” (Patient 31, Clinician 8)

2. Negative Effects on Patient Outcomes

The clinicians of 15 patients reported a negative effect of incentives on patient outcomes.

These experiences all concerned negative effects of the payment itself, and were sub-divided into two sub-themes: Increased drug and alcohol use, and Other adverse effects of payment.

2.1 Increased drug and alcohol use

The clinicians of 8 patients said that the incentive was used to pay for drug or alcohol and therefore led to patients increasing their substance misuse:

“The patient was in hospital twice since I took over. The financial incentive has helped improve our relationship but has also meant he can spend money on drugs.” (Patient 32, Clinician 33).

“The financial incentives have been beneficial with regard to adherence. However, in terms of impact on his lifestyle, the incentives are not beneficial as this has not improved. There is generally no change in his lifestyle, just increased substance misuse.... He has increased his alcohol and drug (crack) use....” (Participant 33, Clinician 4).

“He already had a lot of money due to DLA and income support so the FIAT money was pocket money for alcohol... he became less cooperative with the depot during the trial due to an increase in the use of alcohol..” - (Participant 34, Clinician 44).

“He was hospitalised due to an increase in alcohol use. I believe that FIAT was a contributing factor in his hospitalisation due to the extra cash that he had. However I understand that the patient would probably have got access to alcohol somehow, regardless of the FIAT study” (Participant 35, Clinician 45)

2.2 Other adverse effects of payment

Other adverse effects of payment were reported by the clinicians of 8 patients. These included becoming dependent on the money, becoming secretive about the money, and being vulnerable to being taken advantage of by others because of the money:

“He came every 2 weeks and there was never any need to remind him to appear, in fact the he would often come one or two hours early. Because of this I believe he is desperate for the money and has become dependent on it.” (Patient 36, Clinician 45).

“The money is hidden from his family and spent on beer.... He makes a point of hiding it from his wife... However, this has not increased his drinking.” (Patient 37, Clinician 30).

“He started getting 'hangers on' i.e. people who took advantage of him and started camping out and drinking in his flat. They turned up when he got his incentive.” (Patient 34, Clinician 46).

3. Link Between Themes

Clinicians endorsed different combinations of themes for each patient as depicted in Table 2. This shows that overall, for 77% of patients a positive effect on management and/or outcomes was reported, whilst for 33% a negative effect on management and/or outcomes was reported. These figures overlap because for some patients both positive and negative effects were reported.

[Insert Table 2 about here].

DISCUSSION

Main Results

Clinician interviews were obtained for almost all of the patients allocated to receive incentives in the trial. The concerns of focus groups with regards to how patients would spend the money were to some extent borne out in the data, with clinicians frequently speculating that the money was spent on drugs and alcohol – but only in a minority of cases

was this reported to have led to negative consequences for the patient's physical or mental health. The fear that the money would perversely incentivise patients was in general not supported by the data. However, 8% of patients did ask for additional money or to be paid more often, and some otherwise adherent patients in the teams asked to be paid or deliberately became non-adherent. For approximately three quarters of patients (73%), clinicians reported that financial incentives for adherence to depot medication led to better patient and treatment management, including increased patient contact, improved monitoring of patient health, increased patient engagement and increased trust and communication. Additionally, for nearly half of the patients (45%), clinicians reported improved health and social outcomes and this was often explicitly linked to the benefits of increased medication adherence. Overall, for 77% of patients a positive impact of the incentives on patient management and/or outcomes was reported. However, negative consequences including aggression and monetarisation of the therapeutic relationship, and/or worsening of patient health due to increased drug and alcohol use, were reported in 33% of cases.

Strengths and Limitations

The data was collected as part of a larger randomised controlled trial which allowed for the systematic collection of clinician and patient data. Our analysis allowed for the empirical investigation of the qualitative experience of clinicians' offering financial incentives, which was beyond the scope of the primary outcome data (adherence level). This type of experiential data allows for a better understanding of how financial incentives may affect clinical management and patient health in practice, and significantly contributes to the wider debate surrounding the possible negative consequences of offering financial incentives to people with psychotic disorders.

However, there are several limitations which should be considered when interpreting our

findings:

Firstly, shorthand written documentation of clinicians' responses by researchers limited the detail and richness of data collected.

Secondly, the way in which the interview questions were structured may have biased the way in which the data was interpreted. For example, there was little opportunity for further explanation when a clinician answered 'no' to an interview question, meaning that, in the absence of any change in behaviour, there was little room to give a detailed response as to perhaps why. This may have biased the resulting interviews to be more receptive to exploration of changes in behaviour during the intervention period.

Thirdly, it should be noted that the same clinician (clinician 17) reported identical experiences of the interaction becoming focused on money for 5 patients within their team. Therefore, it is possible that the clinician conflated their experiences with multiple patients, thus exaggerating the number of patients for whom monetarisation of the relationship was reported.

Fourthly, it is important to note that clinicians' reports of how patients spent the money were in many cases openly identified as speculative. Furthermore, the links between the incentive and changes in patient management and health were reported based on the subjective view of clinicians, which may not necessarily have reflected reality, and making causal attributions on the basis of such reports is not possible. Indeed, several clinicians highlighted that they could not be sure whether reported changes in patient management or health were really attributable to the incentive, and that other changes in the patients' circumstances or just natural progression over time may also have played a role.

Implications

It appears that, contrary to the hypothetical concerns predicted in focus groups and surveys of clinicians (Claassen, 2007; Priebe et al, 2010; Shaw, 2007; Szmukler, 2009) for the majority of patients, clinicians reported positive influences of financial incentives, both in the domains of clinical management and in patient health and social outcomes. The positive consequences of financial incentives were predominately around, but by no means restricted to, increased depot adherence. For some, financial incentives may facilitate a positive view of treatment and one's clinician, encouraging more constructive communication between the patient and the clinician - quite the opposite of the negative influence on the therapeutic relationship identified as a concern in previous research (Claassen, 2007; Priebe et al, 2010; Shaw, 2007; Szmukler, 2009). For others, the incentive to increase medication adherence may lead to improved health and social outcomes – although overall in the main trial there was no significant difference in ratings of clinical improvement between the incentive and control groups (Priebe et al, 2013). Reports of improved insight in some patients may be demonstrative of the cyclical nature of medication non-compliance and poorer insight as previously identified in the literature (Brain et al, 2013; Chang et al, 2013;). These positive effects may help to explain why patients in the incentives group reported higher subjective quality of life than the control group at the end of the intervention period (Priebe et al, 2013). Of course for some, no noticeable benefit or cost of offering financial incentives was identified.

However, it should be noted for 33 % of patients, clinicians reported a negative impact of financial incentives on their relationship with their patients and/or on the patient's well-being. The possibility of financial incentives having a negative influence on someone's relationship with their clinician or leading to increased substance abuse is a serious concern, regardless of these events occurring only in a minority of cases.

It seems therefore, that the likelihood of benefit versus the smaller risk of adverse effects should be weighed up when deciding whether to offer incentives to individual patients. It is possible that for most patients, the risk is relatively low and easily manageable, but for some, the risk of negative consequences as a result of financial incentives may be more likely and more difficult to handle. People with substance dependence problems pose a small but not insignificant risk of increased substance use contributing to poor mental health, as a possible consequence of being offered financial incentives.

One need also consider what the practical implications of initiating financial incentives as part of clinical practice would be. For example, while patients who were denied financial incentives (due to not being a participant on the trial) throughout the intervention were relatively understanding as to why, it is unclear whether this would be more problematic when financial incentives were denied to some for reasons beyond that of it being a research project.

Further investigation

We have endeavoured to identify from the clinician perspective what happened between the clinician and the patient when financial incentives were offered in exchange for medication compliance. Further research should investigate whether any positive effects remain once the incentives end, and should seek to understand from the patient perspective any benefits or adverse effects of payment. Additionally, further research could identify whether and how setting the payment above or below £15 affects practice, particularly should the incentives continue for more than one year, and whether experiences of offering financial incentives differ in the context of every day clinical practice rather than during a relatively high profile randomised controlled trial.

REFERENCES

- Brain, C., Allerby, K., Sameby, B., Quinlan, P., Joas, E., Karilampi, U., Lindstrom, L., Eberhard, J., Burns, T., Waern, M. 2013. Drug attitude and other predictors of medication adherence in schizophrenia: 12 months of electronic monitoring (MEMS) in the Swedish COAST study. *Eur. Neuropsychopharmacol.* 23, 1754-1762.
- Burns, T., 2007. Is it acceptable for people to be paid to adhere to medication? Yes. *BMJ.* 335, 232.
- Chang, J., Kim, C.H., Roh, D. 2013. Medication adherence in schizophrenia: relationship with clinical variables and insight. *Eur. Neuropsychopharmacol.* 23, S450-S451.
- Claassen, D., 2007. Financial Incentives for Antipsychotic Depot Medication: Ethical Issues. *J. Med. Ethics.* 33, 189-93.
- Claassen, D., Fakhoury, W.K., Ford, R., Priebe, S., 2007. Money for medication: financial incentives to improve medication adherence in assertive outreach. *Psychiatric Bulletin.* 31, 4-7.
- Cramer, J.A., Rosenheck, R., 1998. Compliance with medication regimens for mental and physical disorders. *Psychiatr. Serv.* 49,196-201.
- Dolder, C.R., Lacro, J.P., Leckband, S., Jeste, D.V., 2003. Interventions to improve antipsychotic medication adherence: review of recent literature. *J. Clin. Psychopharmacol.* 23, 389-99.
- Fenton, W.S., Blyler, C.R., Heinssen, R.K., 1997. Determinants of medication compliance in schizophrenia: empirical and clinical findings. *Schizophr. Bull.* 23, 637-51.

Lacro, J.P., Dunn, L.B., Dolder, C.R., Leckband, S.G., Jeste, D.V., 2002. Prevalence of and risk factors for medication nonadherence in patients with schizophrenia: a comprehensive review of recent literature. *J. Clin. Psychiatry.* 63, 892-909.

Novick, D., Haro, J.M., Suarez, D., Perez, V., Dittmann, R.W., Haddad, P.M., 2010. Predictors and clinical consequences of non-adherence with antipsychotic medication in the outpatient treatment of schizophrenia. *Psychiatry Res.* 176, 109-13.

Priebe, S., Sinclair, J., Burton, A., Marougka, S., Larsen, J., Firn, M., Ashcroft, R., 2010. Acceptability of offering financial incentives to achieve medication adherence in patients with severe mental illness: a focus group study. *J. Med. Ethics.* 36,463-8.

Priebe, S., Yeeles, K., Bremner, S., Lauber, C., Eldridge, S., Ashby, D., David, A.S., O'Connell, N., Forrest, A., Burns, T., 2013. Effectiveness of financial incentives to improve adherence to maintenance treatment with antipsychotics: cluster randomised controlled trial. *BMJ.* 347, f5847.

Shaw, J., 2007. Is it acceptable for people to be paid to adhere to medication? No. *BMJ.* 335, 233.

Szmukler, G. 2009,. Financial incentives for patients in the treatment of psychosis. *J. Med. Ethics.* 35, 224-8.

